SANTA CRUZ BIOTECHNOLOGY, INC.

UBA3 (F-10): sc-377212

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Ubiquitin is an abundant, highly conserved protein found in all eukaryotic cells either free or covalently attached to cellular proteins. The primary function of ubiquitin in mammalian systems is to clear abnormal, foreign and improperly folded proteins by targeting them for proteosome degradation. UBA3 (ubiquitin-like modifier activating enzyme 3), also known as NEDD8-activating enzyme E1 catalytic subunit or UBE1C (ubiquitin-activating enzyme E1C), is a 463 amino acid protein belonging to the ubiquitin-activating E1 family and UBA3 subfamily. Ubiquitously expressed, UBA3 acts as an activator to NEDD8, a ubiquitin-like protein, thus regulating cell division, signaling and embryogenesis. UBA3 exists as two isoforms due to alternative splicing events.

REFERENCES

1. Ciechanover, A. 1994. The ubiquitin-proteasome proteolytic pathway. Cell 79: 13-21.
2. Ciechanover, A. and Schwartz, A.L. 1994. The ubiquitin-mediated proteolytic pathway: mechanisms of recognition of the proteolytic substrate and involvement in the degradation of native cellular proteins. FASEB J. 8: 182-191.

CHROMOSOMAL LOCATION

Genetic locus: UBA3 (human) mapping to 3p14.1; Uba3 (mouse) mapping to 6 D3.

SOURCE

UBA3 (F-10) is a mouse monoclonal antibody raised against amino acids 317-463 mapping at the C-terminus of UBA3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

UBA3 (F-10) is recommended for detection of UBA3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

UBA3 (F-10) is also recommended for detection of UBA3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for UBA3 siRNA (h): sc-76783, UBA3 shRNA Plasmid (h): sc-76783-SH and UBA3 shRNA (h) Lentiviral Particles: sc-76783-V.

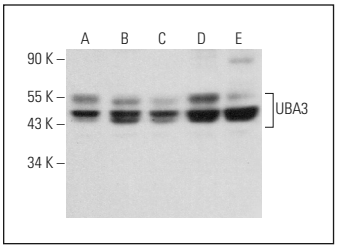
Molecular Weight of UBA3: 58 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, 3T3-L1 cell lysate: sc-2243 or RAW 264.7 whole cell lysate: sc-2211.

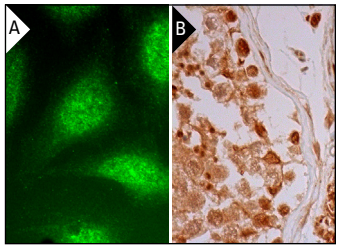
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



UBA3 (F-10): sc-377212. Western blot analysis of UBA3 expression in HeLa (**A**), 3T3-L1 (**B**), RAW 264.7 (**C**), C6 (**D**) and RPE-J (**E**) whole cell lysates.



UBA3 (F-10): sc-377212. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and Leydig cells and nuclear staining of peritubular myoid cells (**B**).

SELECT PRODUCT CITATIONS

1. Mo, Z., et al. 2016. Neddylation requires glycyl-tRNA synthetase to protect activated E2. Nat. Struct. Mol. Biol. 23: 730-737.
2. Du, M.G., et al. 2021. The absence of PTEN in breast cancer is a driver of MLN4924 resistance. Front. Cell Dev. Biol. 9: 667435.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.